

**REMARKS**

Claims 1-21 are pending in the application.

Claims 1-21 stand rejected.

Claims 1, 9, 12 and 21 have been amended.

**Rejection of Claims under 35 U.S.C. §101**

Claims 1-21 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

The Office Action states that “claims 1-21 are deemed to be non-statutory because they are not limited to the technological arts; all recited steps could be performed manually by a human, thereby reinforcing the fact that Applicant’s invention fails to ‘[p]romote the progress of the science and useful arts...’” The Office Action compares the claims in the claimed invention to the claims in *Ex parte Bowman*. In *Bowman*, claim 1 was found to be non-statutory because “the physical aspects of claim 1, which are disclosed to be nothing more than a human manually drawing a chart and plotting points on this chart, do not automatically bring the claimed invention within the technological arts.”

The limitations of claim 1 are not comparable to the limitations in *Bowman* because the limitations of claim 1 involve computations that are much more involved than drawing a chart and plotting points on the chart. For example, original claim 1 of the claimed invention recited “solving for the maximum of each elemental block over each associated single variable; and determining the optimum level of resources as a function of the solved for maximums.” These steps of the claimed invention can involve complicated computations that could not reasonably

be performed by a human, or could not be performed by a human in a reasonable amount of time (e.g., a human might need many years to perform the claimed solving operations). Applicants respectfully note that requiring so much time to reach a result would be useless for the claimed invention's intended purpose, as determinations based on such calculations typically need to be made in a matter of days (or hours, or less).

While Applicants believe that claims 1, 12 and 21 in their original form were sufficient for purposes of this distinction, in order to more clearly point out the fact that the claimed invention is limited to the technological arts, steps of claims 1, 12 and 21 have been amended to explicitly recited that the actions are "performed by a computer."

Thus, claims 1, 12 and 21 are clearly within the technological arts. Dependent claims 2-11 and 13-20, which depend from independent claims 1 and 21, include patentable subject matter for at least the same reasons as the independent claims from which they depend. Applicants therefore respectfully submit that the invention claimed in claims 1-21 is indeed statutory subject matter under 35 U.S.C. §101.

*Rejection of Claims under 35 U.S.C. §102*

Claims 1-10, 12, 14, and 16-21 stand rejected under 35 U.S.C. §102(b) as being anticipated by Dietrich et al., U.S. Patent No. 5,630,070 (Dietrich). Applicants respectfully traverse this rejection.

Applicants previously mentioned that claim 1 distinguishes over Dietrich because Dietrich fails to teach a variety of recited elements. In particular, Applicants noted that Dietrich does not teach "...converting an expected value function associated with the resources and products into a closed form expression...." This is because Dietrich is concerned with a Linear

Programming (LP) problem, and so is not equipped to handle a non-linear function such as the claimed non-linear expected value function. The fact that Dietrich is concerned with the application of a Linear Programming (LP) optimization algorithm can be observed throughout Dietrich's disclosure. In fact, Dietrich does not allow for non-linear functions. Dietrich's need for linearity in its function is a result of Dietrich's use of standard "linear programming" (LP) algorithms for computing the resource allocations that maximize the linear value function.

Applicants maintain that claim 1, in its original form clearly distinguishes over Dietrich. However, in order to more clearly point out the fact that the claimed invention distinguishes over Dietrich, claims 1, 9, 12 and 21 have been amended to explicitly include the limitation of a "non-linear expected value function."

Applicants therefore respectfully submit that, because the LP optimizations disclosed in Dietrich are not compatible with the claimed non-linear expected value function, Dietrich fails to anticipate the invention of claim 1. Applicants further respectfully submit that the foregoing arguments apply with equal force to claims 12 and 21, which contain limitations comparable to those discussed above, are also not anticipated by Dietrich. Accordingly, Applicants respectfully submit that each of the independent claims 1, 12 and 21 clearly distinguish over Dietrich, taken alone or in combination with other references and/or skill in the art. Dependent claims 2-11 and 13-20, which depend from independent claims 1 and 21, are distinguished from Dietrich for at least the same reasons as the independent claims from which they depend. Applicants respectfully request withdrawal of the rejection based upon 35 U.S.C §102(b).

Rejection of Claims under 35 U.S.C. §103

Claims 11, 13, and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Dietrich et al., U.S. Patent No. 5,630,070 (Dietrich). Applicants respectfully traverse this rejection.

As an initial matter, Applicants respectfully note that Dietrich, even in view of skill in the art, or any of the other cited references continues to fail to show, teach or suggest the limitations of claims 1, 12 and 21. As noted previously, Dietrich does not teach “converting a non-linear expected value function associated with the resources and products into a closed form expression,” as claimed in amended claim 1, or “converting the associated non-linear expected value function into a closed from expression,” as claimed in amended claims 12 and 21.

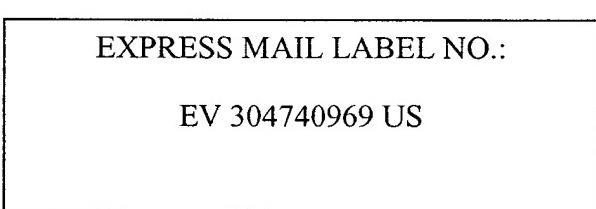
It is noted that Dietrich employs linear transformations, as a result of the use of an LP analysis. Thus, Dietrich, even in light of the skill in the art, taken either separately or in combination with the other cited references, fails to address the need for, and so does not provide, a conversion of a non-linear expected value function associated with the resources and products into a closed form expression as part of a method for optimizing a multivariate representation of resources.

Furthermore, even if the disclosure of Dietrich was combined with the skill in the art, the combination would not provide the advantages and capabilities of the claimed invention. As noted, Dietrich is directed to traditional solutions of LP problems. Because Dietrich fails to discern the problem addressed by the claimed invention (i.e., the need for a method of optimizing a multivariate representation of resources that uses a non-linear expected value function), Dietrich’s solution fails to address such a problem, thereby failing to disclose the solution, and so the claimed invention.

Applicants therefore respectfully submit that each of claims 11, 13 and 15 clearly distinguish over Dietrich, even with the skill in the art, taken alone or in combination with the other cited references. Applicants respectfully submit that these arguments apply with equal force to claims 1, 12 and 21. Applicants therefore respectfully submit that independent claims 1, 12 and 21, as well as claim 2-11 and 13-20, which depend on claims 1, 12 and 21, are also allowable for at least the foregoing reasons. Applicants therefore respectfully request withdrawal of the rejections based upon 35 U.S.C. §103(a). Accordingly, Applicants respectfully submit that claims 1-21 are in condition for allowance.

### CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5084.



Respectfully submitted,



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